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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,937	11/06/2000	Thomas Huber	N0070US	8577

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NAVIGATION TECHNOLOGIES  
222 MERCHANDISE MART  
SUITE 900, PATENT DEPT.  
CHICAGO, IL 60654

EXAMINER
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LE, MIRANDA

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/706,937

Applicant(s)

HUBER ET AL.

Examiner

Miranda Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/27/2004 has been entered.
2. This communication is responsive to Amendment filed 12/27/2004. Claims 1-6, 8-14 are pending in this application. Claims 1, 2, 14 are independent claims. In the Amendment C, claims 1, 2 have been amended; claim 7 has been cancelled. This action is made non-Final.

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless:

(e) the invention was described in

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-3, 5-6, 8-10, 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Hancock (US Patent No. 6,609,062 B2).

Hancock anticipated independent claims 1, 2, 14, by the following:

**As per claim 1**, Hancock teaches “an index for data that represent geographic features comprising: a structure that includes three dimensions” at col. 4, line 47 to col. 5, line 34, col. 16, line 14 to col. 17, line 67;

“wherein a first dimension of said three dimensions includes latitude boundary information, a second dimension of said three dimensions includes longitude boundary information, said first dimension and second dimension are searchable spatially” at col. 4, line 47 to col. 5, line 34, col. 16, line 14 to col. 17, line 67;

“wherein a third dimension includes rank information, said third dimension is searchable for a rank of the geographic features represented by the data” at col. 5, line 35 to col. 6, line 46, col. 12, line 5 to col. 13, line 31.

**As per claim 2**, Hancock teaches “an index for data that represent geographic features comprising: a structure that includes two spatial dimensions and a non-spatial third dimensions” at col. 4, line 47 to col. 5, line 34, col. 16, line 14 to col. 17, line 67;

“whereby said data indexed by said structure are searchable spatially using said two spatial dimensions” at col. 4, line 47 to col. 5, line 34;

“whereby a non-spatial property of the data that represent the geographic features is searchable using said third dimension” at col. 6, line 15 to col. 7, line 67.

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**As per claim 14**, Hancock teaches “an index for data comprising: a structure that includes a first dimension, a second dimension and a third dimension” at col. 4, line 47 to col. 5, line 34, col. 16, line 14 to col. 17, line 67,

“wherein said first dimension includes latitude boundary information, wherein said second dimension includes longitude boundary information, whereby said data indexed by said structure are searchable using said first and second dimensions” at col. 4, line 47 to col. 5, line 34, col. 16, line 14 to col. 17, line 67,

“wherein said third dimension includes granularity information of the indexed data” at col. 6, line 15 to col. 7, line 25,

“whereby a granularity of the indexed data is searchable using said third dimension” at col. 6, line 15 to col. 7, line 25.

**As per claim 3**, Hancock teaches “said structure is a k-d-tree index structure comprising a root node, intermediate nodes and leaf nodes, wherein each node is part of a parent-child relationship wherein each parent node includes control information from which one of at least two child nodes associated with the parent node are distinguishable based on a search key” at col. 6, line 15 to col. 7, line 25.

**As per claim 5**, Hancock teaches “improved index is non-homogeneous” at col. 6, line 15 to col. 7, line 25.

**As per claim 6**, Hancock teaches “geographic features are roads” at col. 4, line 39 to col. 5, line 34.

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As per claim 8, Hancock teaches “rank includes both integers and fractional values” at col. 6, line 15 to col. 7, line 25.

As per claim 9, Hancock teaches “property is a granularity of the indexed data” at col. 6, line 15 to col. 7, line 25.

As per claim 10, Smartt teaches “property is a viewing altitude associated with the indexed data” at col. 4, line 39 to col. 5, line 34.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 4, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hancock (US Patent No. 6,609,062 B2), in view of Evans et al. (US Patent No. 6,327,535 B1).

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**As per claim 4**, Hancock does not explicitly teach “improved index is homogeneous”. However, Evans teaches this limitation at col. 12, lines 23-45, col. 4, lines 31-41.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the cited references because Evans’s teachings would have allowed Hancock’s to efficiently enable proximity calculations to be computed in a fast and straightforward manner.

**As per claim 11**, Smartt does not explicitly teach “property is a scale associated with the indexed data”. However, Evans teaches this limitation at col. 6, line 66 to col.7, line 13, col. 24, lines 20-40.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the cited references because Evans’s teachings would have allowed Hancock’s to more easily and accurately obtain a uniform way of defining locations.

7. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hancock et al. (US Patent No. 6,470,287 B1), as applied to claims above, in view of Smartt et al. (US Patent No 6,470,287 B1).

**As per claim 12**, Hancock teaches “property is an expiration date associated with the indexed data” at col. 6, lines 55-65.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the cited references because Smartt’s teachings would have allowed

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Hancock's to enable efficient search both for records that contain specific value in the indexed field, and for records that have a range of values in the indexed field.

**As per claim 13**, Hancock teaches "property is a creation date associated with the indexed data" at col. 6, lines 55-65.

It would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the cited references because Smartt's teachings would have allowed Hancock's to enable efficient search both for records that contain specific value in the indexed field and for records that have a range of values in the indexed field.

#### ***Response to Arguments***

8. Applicant's arguments concerning Smartt does not teach a third dimension of the index including rank information and a non-spatial property of the indexed data is searchable using the third dimension, with respect to claims 1, 2 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (571) 272-4107. The fax number to this Art Unit is (703) 872-9306.




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Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Miranda Le  
January 07, 2005



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